ADHD medication overdose and misuse: the NSW Poisons Information Centre experience, 2004-2014.

Cairns R, Daniels B, Wood DA, Brett J.


Abstract

OBJECTIVES:
To describe Australian trends in overdoses with medications used to treat attention deficit hyperactivity disorder (ADHD).

DESIGN, SETTING AND PARTICIPANTS:
This was a retrospective observational study of intentional exposures to methylphenidate, dexamphetamine, modafinil and atomoxetine reported to the New South Wales Poisons Information Centre (NSWPIC) from 1 January 2004 to 31 December 2014. The NSWPIC takes calls from New South Wales, Tasmania and the Australian Capital Territory between 6 am and midnight each day, and, as part of a national after-hours roster, from all Australian states between midnight and 6 am on seven nights each fortnight. The target population included Australian residents aged 10-75 years.

MAIN OUTCOME MEASURES:
Demographic characteristics of the patients, changes in numbers of exposures with time, co-ingestants, route of exposure, and disposition of patients.

RESULTS:
During the 11-year study period, 1735 intentional exposures to the four medications were reported to NSWPIC. There was a 210% increase in intentional exposures to methylphenidate over this period, whereas the number of dexamphetamine exposures declined by 25%. Illicit use (defined as co-ingestion with alcohol or a street drug) increased by 429% across the study period. At least 93% of overdose patients required hospitalisation. Trends in exposures paralleled trends in the dispensing of these medications, as recorded in Pharmaceutical Benefits Scheme data.

CONCLUSIONS:
NSWPIC data show a dramatic increase in intentional exposures to ADHD medications between 2004 and 2014, mainly to methylphenidate. Further, the data suggest that illicit use of these substances is increasing. The potential harm related to misuse of prescription stimulants and the close correlation between these exposures and the prescribing of these drugs causes concerns about their diversion, and highlights the importance of the quality use of medicines (ie, ensuring that they are used safely, appropriately and in an evidence-based manner, including considering non-medical or non-stimulant alternatives) and of risk assessment for misuse when prescribing ADHD drugs.